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ABSTRACT

Textbooks emphasizing visual elements in exposition can be enriched using crisp, concise, audio-taped commentaries to focus attention on essential points in each illustration. These text aids, packaged in the convenient form of cassettes (usually one per chapter), have a number of obvious advantages: (1) any teacher can prepare them; (2) they are immediately and cheaply transferred between institutions; (3) a cassette recorder is the only equipment required; (4) they are readily incorporated into any course, regardless of the teaching methodology--class size is not a limiting factor in their applicability; (5) the student receives a taped guide, complete with his or her own set of take-home visual materials, such as graphs, diagrams, tables, photos and electron micrographs; (6) the student is free to work at a time, place and pace of his or her choice. This freedom makes the modules eminently suited to extension or continuing education courses. (Author)

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THE TEXTALK, A UNIQUELY SIMPLE, VERSATILE TYPE OF AUDIO-VISUAL MODULE: HOW TO PREPARE AND USE IT.*

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Textbooks emphasizing visual elements in exposition can be enriched using crisp, concise, audio-taped commentaries to focus attention on essential points in each illustration. These text aids, packaged in the convenient form of cassettes (usually one per chapter), have a number of obvious advantages:

1. Any teacher can prepare them.
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INTRODUCTION

A fascinating chapter in the history of the communications revolution was enacted on location here in California as the "movies", by adding the extra dimension of sound, evolved into the "talkies." The seductiveness of the talking picture has made it an essential home furnishing. For better or for worse, new generations are acquiring a substantial part of their "education" at the omnipresent knee of the congenial machine with talking pictures. We report that the richly illustrated textbook of today can be enhanced for today's student by making the pictures talk.

Homage to the Text

The effectiveness of the printed book as an educational device portable, economical, amenable to independent, self-paced study, is too often taken for granted. Consistent with the time worn adage, attributed to the Chinese, that one picture is worth a thousand words, the contemporary textbook has responded to the demands of our enriched visually orient/ed world with an abundance of illustrative material. Art history books are replete with magnificent colour reproductions. In our field, biology, a wide spectrum of illustrations, graphs tables, micrographs, photographs and diagrams are particularly important in

exposition. In some cases these are self explanatory, but more frequently they are sufficiently complex to require elaboration and description in the form of written material. Too frequently the significance of the illustration emerges only after jumping backwards and forwards a number of times between explanation and illustration.

Frequently, illustration and explanation are not even on the same page.

The Textalk

Taped text aids, or "textalks" (we use the term "Textape", a registered trademark) help a student to study a complex technical illustration by means of a taped, step-by-step guide. As in an illustrated lecture, or a museum tour under the tutelage of an expert guide, the explanation is simultaneous with the viewing, and promotes student familiarity with the sound and usage of the vocabulary tools of the subject. However, the tape-book partnership has two advantages over the museum tour; it permits self-paced study and provides a take-home set of illustrations. You can't rewind a museum guide, and taking the pictures home is a "no no."

Preparing Textalks

It is useful to consider the textalk in the context of a modular approach to learning, where flexibility in use becomes important. Hence a number of smaller textbooks with single topic focus is an advantage over a larger text, since course content is more readily modified. Similarly, single chapter textalks are preferable to multiple chapter tapes in that they permit modifications of presentation sequence and of content from one offering of the course to the next.

Prior to textape scripting, we review the chapter, selecting illustrations to be discussed and noting material requiring elucidation. Illustrations are generally discussed in the sequence they appear in the text, but modifications are sometimes desirable. In addition, it is often useful to direct the student to an important illustration in a chapter other than the one under discussion.

Counsellors today say "give in to temptation." We urge "textalkers" to avoid the temptation of lecturing the student on tape. Lectures are for the classroom. Textalks are for discussing visual materials, and we try to plunge into such discussion with a minimum of preamble. If students are equipped with variable speed compressed speech playback machines, one might relent on the "no lecturing" rule, since the talk can be scanned at a rate appropriate to the

student's rate of comprehension and background knowledge. We have experimented with a textalk where the speech rate was electronically compressed to 75% of the original rate. Students adapted quite readily to such pre-compressed speech. However, truly self-paced instruction using tapes awaits the application of student-controlled variable-speed playback machines.

Textables should be short and crisp, lasting a maximum of about 20 minutes of tape time. Textalks include a number of activities requiring a student to stop the tape, so that a typical 20 minute tape may require between 1 and 2 hours to complete.

A script begins with reference to the names of the text and author, and the page number where discussion starts. We use two signals; a single electronic buzz (or bell) follows a request to turn to a new page and a triple buzz follows a request to stop the tape to carry out some activity. In a script, signals are denoted by single and double asterisks. Instructions should direct the student's visual attention unambiguously to the point under discussion.

Recording is done with the help of a technician who operates the recorder and paces the reader. Acting as a student, text in hand, he follows instructions, signalling when he locates the structure referred-to by the reader. In reading we attempt to emulate the enthusiasm and projection of professional broadcasters.

The tape is completed by inserting a short musical segment at the start and conclusion, and sometimes in the middle, for a special background effect.

Use of Textalks

Students receive, at weekly class meetings, a handout sheet specifying assignments (reading and one or more textalks), and listing objectives and problem questions. Tests, based on these questions, are frequent. Textalk tapes are available over extended hours for use in the University Library. Duplicate tapes are also present in a laboratory used jointly by the authors for a number of courses, Cytology, Histology, Plant Anatomy and Morphology, Mycology and Electron Microscopy. Ideally, tapes should be available for home use, but our present duplication facilities make this service impractical. We have found textalks to be effective lecture substitutes in structural biology. In many courses, textalks would serve an adjunct role of textual aid, optional or required.

Textalk Transfer

Textalks may be transferred between schools in the form of tapes or scripts. Tapes provide ready-made convenience. Scripts supply a time-saving framework which can be "personalized" by the instructor. Of course textalks could be synthesized "de novo" by each instructor, but only at considerable cost in duplicated effort.